Troubleshooting BIP-IP LTM v10.2.x

Table of Contents

Module 1: Course Overview 1-1

Course Overview 1-1

.....**Lab** - Installation and Setup 1-2

Module 2: The Problem Determination Process 2-1

Define the Problem 2-1

Identify Possible Causes 2-2

Define Hypotheses 2-3

Develop Test Plans 2-4

.....**Lab** - Troubleshooting Questions 2-5

Module 3: F5 Support 3-1

Support Overview 3-1

Ask F5 3-2

Support Cases 3-4

qkview and iHealth 3-5

Software Version Policy 3-11

System Upgrades: CRs, Hotfixes, Releases 3-12

.....**Lab** - Install Maintenance Hotfix 3-18

.....**Lab** – iHealth Analysis Lab (Optional) 3-19

EUD and RMA 3-22

Module 4: Product Architecture 4-1

Architecture Overview 4-1

SCCP/AOM Details 4-2

.....**Lab** - SCCP Network Address 4-5

Switch Board 4-6

Host Subsystem 4-7

Module 5: Troubleshooting – Bottom to Top 5-1

Architecture Overview 5-1

Layer 1 Tools 5-2

Layer 2 Tools 5-5

Layer 3 Tools 5-7

netstat 5-13

tracepath 5-19

telnet 5-20

bigtop 5-21

Lab - Lower Layer – TS_5-1 5-24

top 5-27

watch 5-31
Additional tmsh and bigpipe commands 5-34
End-User Diagnostics 5-37
Lab - EUD 5-46

Module 6: Troubleshooting Tools 6-1
tcpdump 6-1
Lab - tcpdump 6-10
Wireshark 6-11
Lab - Wireshark 6-14
Fiddler 6-15
Lab - Fiddler 6-19
Kdiff3 6-20
ssldump 6-21
cURL 6-22
Lab - Capture and Analysis Tool Lab 6-23
Optional Labs - Kdiff3 and cURL 6-24

Module 7: Logs & Notification 7-1
System Log Configuration 7-1
Log Files 7-5
Remote Syslog Notification 7-9
Lab - Remote System Log Server 7-11
The Alertd Process 7-13
LCD Notification 7-17
SNMP Notification 7-18
Lab - SNMP Trap 7-21
EMail Notification 7-24

Module 8: Troubleshooting Labs 8-1
Project #1 8-3
Project #2 8-4
Project #3 8-5
Project #4 8-6
Project #5 8-7
Optional Project #6 8-8
Optional Project #7 8-9

Appendix A - Installation A-1
Pre-Installation Information A-1
Configuration Worksheet A-4
Installing BIG-IP v10 software A-5
Optional Lab – v10 Re-Install A-12
Installing BIG-IP v9 software A-13

Appendix B – New Features B-1
New Feature summary for Version 10.2.0 ..... B-1
New Feature summary for Version 10.1.0 ..... B-3
New Feature summary for Version 10.0.0 ..... B-4
New Features for Version 9.4.X B-8

Appendix C – Additional Lab Steps C-1
LTM Essentials detailed lab steps – Module 1 Install C-1
LTM Essentials detailed lab steps – Module 2 Virtual Servers and Pools C-7
LTM Essentials detailed lab steps – Module 3 Monitors C-9

Appendix D – v9.3 Logs and Notification D-1
Syslog-ng D-1
Remote Syslog server and Lab D-9
Enabling SNMP and Trap Lab D-18
Enabling Mail D-21

Appendix E: AskF5 Solutions E-1

Printout of PowerPoint Slides .....